In the claims:

1. (currently amended) A software system implemented in a circuit for sensing ~~p~~P-waves in a pacemaker, the system in combination with the circuit comprising:

means for detecting a plurality of atrial depolarization signals; and

means for pacing ~~the~~ a ventricle synchronous with a one of said detected plurality of atrial depolarization signals; ~~and~~

wherein said means for detecting ~~including~~ comprising at least two subcutaneous electrodes in data communications with said means for pacing, and wherein said means for pacing further comprises ~~having~~ at least one pacing lead.

2. (original) The system of claim 1 wherein said means for pacing is a single chamber ventricular-inhibited pacemaker.

3. (currently amended) The system of claim 2 wherein said pacemaker includes a hermetically sealed case including said at least two subcutaneous electrodes being peripherally distributed about the perimeter of the case.

4. (currently amended) The system of claim 2 wherein ~~said pacemaker is coupled to~~ the at least one pacing lead comprises a ventricular pacing lead.

5. (currently amended) The system of claim 4 wherein said ventricular pacing lead is one of a unipolar pacing lead and a bipolar pacing lead~~structure~~.

6. (currently amended) A sensing circuit~~ry~~ operating in co-operation with a pacemaker, a lead and at least one ~~plurality of~~ subcutaneous electrode arrays SEA) implemented for pacing the ventricle synchronous with atrial depolarization signals, the circuitry comprising:

an analog to digital converter (ADC) for converting a plurality of cardiac depolarization signals;

~~a plurality of filters coupled to said ADC;~~

a detector for detecting at least one of said plurality of cardiac depolarization signals coupled to said analog to digital converter (ADC) ~~in communication with said plurality of filters~~;

a digital to analog converter (DAC) coupled to the detector to convert at least some of the signals passing through said detector; and

a means for R-wave detection and a means for ~~p~~P-wave detection coupled to said digital to analog converter (DAC).

7. (currently amended) The circuit of claim 6 wherein said circuit further comprises: a plurality of ~~signals include~~ signal inputs, wherein said plurality of signal imputs further comprise: ~~into~~

a signal input into said analog to digital converter (ADC) ~~relating to~~ for a ventricular electrogram (VEGM) data signal from said lead;

a signal input into said analog to digital converter (ADC) for a electrocardiogram (ECG) data signal from said at least one subcutaneous electrode array (SEA); and

a signal input into said analog to digital converter (ADC) for an electrocardiogram (ECG) data signal from an external lead.

8. (currently amended) The circuit of claim 7 wherein said ventricular electrogram (VEGM) data signal is transmitted via a ventricular lead.

9. (currently amended) The circuit of claim 7 wherein said electrocardiogram (ECG) data signal is transmitted from at least one external electrodes such as from a programmer implemented to validate said electrocardiogram (ECG) data signal from said subcutaneous electrode array (SEA).

10. (currently amended) The circuit of claim 7 wherein said ventricular electrogram (VEGM) data signals include a plurality of intrinsic ventricular

depolarization waveforms that inhibit at least one pre-scheduled ventricular output pulse.

11. (currently amended) The circuit of claim 7 wherein said electrocardiogram (ECG) data signal from the subcutaneous electrode array (SEA) is a primary input and provides the electrocardiogram (ECG) data signal to the analog to digital (ADC) on a substantially continuous basis.

12. (currently amended) A software system implemented in a circuit to monitor underlying sequences that are used in a single chamber ventricular-inhibited pacemaker, the sequencing method comprising:

starting a P-wave to R-wave (PR) cross check interval when a ~~p~~P-wave threshold crossing is sensed by at least a pair of electrodes of a subcutaneous electrode array;

discounting a ~~p~~P-wave if an R-wave is detected in the P-wave to R-wave (PR) cross check; and

triggering a PVARP interval when an R-wave is detected.

13. (currently amended) The sequencing method of claim 12 wherein said PVARP interval ~~is used to blank~~ blocks retrograde p-waves thereby providing protection against pacemaker-mediated tachycardia (PMT).

Sub B1

A2

14. (currently amended) The sequencing method of claim 12 wherein in the event no P-wave threshold crossing is sensed:

extending a ventricular atrial (VA) interval ~~is extended~~ by an atrioventricular (AV) interval period; and

emitting a ventricular pacing pulse when the atrioventricular (AV) interval period expires ~~is emitted if no p-wave is sensed~~.